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10/656,375	09/08/2003	Hiroki Kishi	03500.017558	8246

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EXAMINER	
SHAH, PARAS D	

ART UNIT	PAPER NUMBER
2626	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/656,375	KISHI, HIROKI	
	Examiner	Art Unit	
	PARAS SHAH	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 March 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,6-10,12 and 15-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,6-10,12 and 15-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *03/27/2008, 03/17/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the Amendments and Arguments filed on 03/17/2008. Claims 1,3, 6-10, 12, and 15-19 remain pending and have been examined. Claims 4, 5, 13, and 14 have been cancelled. The Applicants' amendment and remarks have been carefully considered, but they are moot in view of new grounds for rejection. Accordingly, this action has been made FINAL.

All previous objections and rejections directed to the Applicant's disclosure and claims not discussed in this Office Action have been withdrawn by the Examiner.

Response to Arguments

2. Applicant's arguments (pages 8-10) filed on 03/27/2008 with regard to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection. Further, the prior art reference by Kawahara was removed as a result of the deletion of the claim limitation. However, the references of Ishimura (IS 6,188,831) and Iseda (US 5,091,955) were applied (see Below) in order to teach the newly cited limitations.

Response to Amendment

3. Applicants' amendments filed on 03/17/2008 have been fully considered. The newly amended limitations in claims 1 and 10 necessitate new grounds of rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1,3, 5, 8-10, 12, 14, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda (US PGPub 2001/0048770, 12/06/2001) in view of Iseda (US 5,091,955) in view of Ichimura (US 6,188, 831).

As to claim 1, Maeda teaches an image and audio processing apparatus comprising:

image encoding means for encoding image data (see page 4, [0080], line 19) inputted (see page 4, [0080], line 2) (e.g. The reference uses MPEG-4 data that is already encoded); audio data encoding means) (see page 12, [0204], line 1-3) for encoding audio data inputted together with the image data (see page 12, [0204], line 2);

encoding of audio data during the period for which audio data (see Maeda, page 12, [0204], line 1-3) is processed with high acoustic quality (e.g. This is referring to the ROI set by the user) inputted together with the image data (see page 12, [0204], line 1-3) (e.g. It should be note that in the reference the audio data is appended with the image data. Further, the applicant regards the audio

setting means as the ROI setting done for the image and since the audio is appended it is inherent that the audio data will be affected for specific region. The audio data is encoded by a MPEG4 encoder)..

image encoding setting means (see page 2, [0026], lines 3-4) for setting the encoding said image encoding means to encode the image data (e.g. Specifying an ROI of the moving image as being set by the reference and has been known to be of higher quality) so that a scene exhibiting a high degree of significance is encoded with a high image quality (see page 1, [0007], lines 1-3 and [0249])); and

data integration means for integrating (see Figure 24, multiplexer 2414), in a predetermined order (see [0202] and [0214], shaping done based on JPEG 2000 format), data of the frame images with the high image quality (see Figure 24, output of 2407 to mask encoder 2412 and input into 2414) in accordance with the setting by said image encoding setting means (see Figure 24, mask encoder 2412 and [0202], ROI shape and position information) and the encoded audio data by said audio encoding means (see Figure 24, output of entropy encoder 2413 and input into multiplexer.) corresponding to the period of the frame images encoded with high image quality, and outputting the integrated data (see Figure 24, output of multiplexer 2414 and input into code output unit 2415.);

wherein said image encoding setting means see Maeda, page 2, [0026], lines 3-4) is capable of setting selectively a part of a region in each of arbitrary n (where n is an integer equal to or larger than 1) frame images of a moving image

composed of the image data so that this partial region exhibits a high image quality (e.g. Interpreted as ROI. Since n is arbitrary, it is obvious that an ROI that is selected is equal to or larger than 1 frame depending on selected portion of an image.) exhibits high image quality (see Maeda, page 1, [0007], lines 1-3),

However, Maeda does not specifically disclose the use of two separate encoding units for encoding audio data using two separate methods and selectively outputting the encoded data.

Iseda does teach the first audio data encoding means for encoding audio data (see Figure 2, coder A1, and entropy coder sets GA1)

second audio data encoding means (See Figure 2, coder An and entropy coder GAn) for encoding the audio data by using a second audio encoding method which is different from the first encoding method (see col. 4, lines 40-49, coders have different characteristics):

audio output determination means (see Figure 2, and selecting and multiplexing part 4)for selectively outputting the encoded audio data encoded by said first audio data encoding means and the encoded audio data encoded by said second audio data encoding means (see col. 4, lines 56-65, selects the coder that has the best quality);

wherein said audio output determination means outputs the encoded audio data encoded by a predetermined one of said first audio data encoding means and said second audio data encoding means and the encoded audio data encoded by said second audio data encoding means to output the encoded

audio data exhibiting higher acoustic quality (see col. 4, lines 56-65, selection done based on which coder set has optimum quality)

It would have been obvious to one of ordinary skilled in at the time the invention was made to have modified the image processing taught by Maeda with the selection of an optimal coder as taught by Iseda. The motivation to have combined the two references involves the ability to produce high quality audio (see Iseda, col. 2, lines 40-15 and 50-55) as would benefit the image processing apparatus taught by Maeda, which discloses image and audio data corresponding to the ROI. Further, the combination would allow the system taught by Maeda to produce high quality audio for the ROI representing the audio and image.

However, Maeda in view of Iseda do not specifically teach the encoding of high quality audio in selected regions of an image.

Ichimura does teach encoding selected regions of data with high quality (see col. 5, lines 32-45, image and audio data are stored with high quality for a given interval whereas the other intervals are processed as normal.)

It would have been obvious to one of ordinary skilled in at the time the invention was made to have modified the image processing taught by Maeda in view of Iseda with the encoding of high quality audio in selected regions of an image as taught by Ichimura. The motivation to have combined the two references involves the ability to produce accurate playback for important regions in a signal (i.e. ROI) (see Ichimura, col. 5, lines 5-8).

As to claims 3 and 12, Maeda in view of Iseda in view of Ichimura teach all of the limitations as in claims 1 and 10, above.

Furthermore, Maeda teaches the use of multiplexing audio and image data with respect to the chosen ROI (see [0024], image and audio encoded data).

Furthermore, Iseda teaches the encoding of audio data based on means outputs the encoded audio data encoded by a predetermined one of said first audio data encoding means and said second audio data encoding means and the encoded audio data encoded by said second audio data encoding means to output the encoded audio data exhibiting higher acoustic quality (see col. 4, lines 56-65, selection done based on which coder set has optimum quality)

Furthermore, Ichimura does teach the encodes the audio data in a case that said image encoding setting means effects the setting of the encoding, (see col. 5, lines 32-45, image and audio data are stored with high quality for a given interval whereas the other intervals are processed as normal).

Hence, the combination of references by Maeda in view of Iseda in view of Ichimura teach the cited limitations. Furthermore, Ichimura teaches the use of specific intervals that are determined to be important are maintained at a higher quality such as audio data. Furthermore, Iseda allows for the use of multiple coders and choosing one that provides the best quality. The Maeda reference used both image and audio data to encode specific regions (i.e. ROI).

As to claims 6, 7, 15, and 16 Maeda in view of Iseda in view of Ichimura teach all of the limitations as in claims 1 and 10, above.

Furthermore, Maeda teaches wherein said image encoding setting means makes the setting so as to encode a region (see [0247], ROI is set by the region setting unit), with the high image quality (see [0007], ROI is determined for higher image quality), including an arbitrary object in the image data (see [0247], user cal set a region of interest that includes objects. Further, the ROI is a region that is to be encoded (see [0247])).

As to claims 8 and 17, Maeda in view of Iseda in view of Ichimura teach all of the limitations as in claims 1 and 10, above.

Furthermore, Maeda teaches wherein said image encoding setting means makes the setting so as to encode a partial region of the image (see page 15, [0247], line 12-13) (e.g. ROI) data with the high image quality (see Maeda, page 1, [0007], lines 1-3) in accordance with a user's instruction for designating an object displayed on a display screen (see page 15, [0247], line 14-15) (e.g. User can set ROI from the displayed data obtained from a camera.).

As to claims 9 and 18, Maeda in view of Iseda in view of Ichimura teach all of the limitations as in claims 1 and 10, above.

Furthermore, Maeda teaches wherein image encoding setting means makes the ROI setting image (see page 15, [0247], line 12-13) in accordance with the user's instruction (see page 15, [0247], line 14-15), and wherein said image encoding means executes the ROI encoding (see page 15, [0247], line 16-17).

As to claims 10 and 19, Maeda teaches an image processing method comprising:

an image encoding step of inputting a moving image (see\ Maeda, page 9, [0159], lines 1-3) (e.g. It is seen in this reference that moving images are being selected depending on user.) and encoding image data thereof (see page 4, [0080], line 19) inputted (see Maeda, page 4, [0080], line 2) (e.g. The reference uses MPEG-4 data that is already encoded);

encoding of audio data during the period for which audio data (see Maeda, page 12, [0204], line 1-3) is processed with high acoustic quality (e.g. This is referring to the ROI set by the user) inputted together with the image data (see page 12, [0204], line 1-3) (e.g. It should be note that in the reference the audio data is appended with the image data. Further, the applicant regards the audio setting means as the ROI setting done for the image and since the audio is appended it is inherent that the audio data will be affected for specific region. The audio data is encoded by a MPEG4 encoder)..

an image encoding setting step of setting the encoding in said image encoding step (see Maeda, page 2, [0026], lines 3-4) to control an image quality of encoded image data in accordance with a partial region in each of frame image of the moving image (see Maeda, page 1, [0007], lines 1-3 and [0249]) (e.g. It is seen from the reference that the image is encoded with a higher quality based on the ROI, where the image data in coded with MSB); and

audio data encoding setting means (see Maeda, page 2, [0026], lines 3-4) for setting said audio encoding method in said audio data encoding means to process the audio data (see Maeda, page 12, [0204], line 1-3) (e.g. It should be note that in the reference the audio data is appended with the image data. Further, the applicant regards the audio setting means as the ROI setting done for the image and since the audio is appended it is inherent that the audio data will be affected for specific region. The audio data is encoded by a MPEG4 encoder).

data integration step for integrating (see Figure 24, multiplexer 2414), in a predetermined order (see [0202] and [0214], shaping done based on JPEG 2000 format), data of the frame images with the high image quality (see Figure 24, output of 2407 to mask encoder 2412 and input into 2414) in accordance with the setting by said image encoding setting means (see Figure 24, mask encoder 2412 and [0202], ROI shape and position information) and encoded audio data by said audio encoding means (see Figure 24, output of entropy encoder 2413 and input into multiplexer.) corresponding to the period of the frame images

encoded with high image quality, and outputting the integrated data (see Figure 24, output of multiplexer 2414 and input into code output unit 2415.).

wherein image encoding setting means (see Maeda, page 2, [0026], lines 3-4) can selectively set a region so the partial region (e.g. Interpreted as ROI.) exhibits high image quality (see Maeda, page 1, [0007], lines 1-3). Further, Maeda and Kawahara disclose an audio data setting means sets the audio encoding method to increase the bit amount of (see Figure 3 and see col. 9, lines 55-67 and col. 10, lines 37-67) the audio data (see Maeda, page 14, [0233], line 10-14) (e.g. It is seen from the reference that the image corresponding to the ROI portion is used and stored and the audio encoded for this image is reproduced by the sound device. Hence, processing of the audio is being done with respect to the ROI setting and the image for synchronization) corresponding to the setting done by the image encoding setting.

However, Maeda does not specifically disclose the increase a bit amount of the audio data.

However, Maeda does not specifically disclose the use of two separate encoding units for encoding audio data using two separate methods and selectively outputting the encoded data.

Iseda does teach the first audio data encoding means for encoding audio data (see Figure 2, coder A1, and entropy coder sets GA1)

second audio data encoding means (See Figure 2, coder An and entropy coder GAn) for encoding the audio data by using a second audio encoding

method which is different from the first encoding method (see col. 4, lines 40-49, coders have different characteristics):

audio output determination means (see Figure 2, and selecting and multiplexing part 4)for selectively outputting the encoded audio data encoded by said first audio data encoding means and the encoded audio data encoded by said second audio data encoding means (see col. 4, lines 56-65, selects the coder that has the best quality);

wherein said audio output determination means outputs the encoded audio data encoded by a predetermined one of said first audio data encoding means and said second audio data encoding means and the encoded audio data encoded by said second audio data encoding means to output the encoded audio data exhibiting higher acoustic quality (see col. 4, lines 56-65, selection done based on which coder set has optimum quality)

It would have been obvious to one of ordinary skilled in at the time the invention was made to have modified the image processing taught by Maeda with the selection of an optimal coder as taught by Iseda. The motivation to have combined the two references involves the ability to produce high quality audio (see Iseda, col. 2, lines 40-15 and 50-55) as would benefit the image processing apparatus taught by Maeda, which discloses image and audio data corresponding to the ROI. Further, the combination would allow the system taught by Maeda to produce high quality audio for the ROI representing the audio and image.

However, Maeda in view of Iseda do not specifically teach the encoding of high quality audio in selected regions of an image.

Ichimura does teach encoding selected regions of data with high quality (see col. 5, lines 32-45, image and audio data are stored with high quality for a given interval whereas the other intervals are processed as normal.)

It would have been obvious to one of ordinary skilled in at the time the invention was made to have modified the image processing taught by Maeda in view of Iseda with the encoding of high quality audio in selected regions of an image as taught by Ichimura. The motivation to have combined the two references involves the ability to produce accurate playback for important regions in a signal (i.e. ROI) (see Ichimura, col. 5, lines 5-8).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Taniguchi *et al.* (US 5,115,649) is cited to disclose selection of the most suitable decoder based on evaluation criteria. Fallon (US 6,309,424) is cited to disclose selecting the encoded data that has the highest compression ratio.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PARAS SHAH whose telephone number is (571)270-1650. The examiner can normally be reached on MON.-THURS. 7:00a.m.-4:00p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571)272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner, Art Unit 2626

05/15/2008

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